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ABSTRACT

The research aimed at determining the extent to which two variables, self-concept and response variability, are related to one of the principal components of Fiedler's Contingency Model of leadership, the Esteem for the Least Preferred Coworker (LPC) instrument. Sixty extension workers in the Expanded Food and Nutrition Education Program in New York State comprised the population for tests between major variables. The number was reduced to 47 for tests of the contingency theory. Three intervening variables describing the leader's operating situation were: leader-member relations, task structure, and position power. Eight situations are described by the three variables ranging from very favorable to very unfavorable for the leader. Two quantitative measures of group performance were employed: a Single Factor Score and an Exposure Index. The first hypothesis, which postulated a negative relationship between LPC and self-concept, was rejected. The second hypothesis, which considered the response variability of each respondent in low, intermediate, and high LPC groups advanced the notion that a curvilinear relationship existed between LPC score and response variability. The third hypothesis, which viewed response variability with regard only to each person's average LPC score, demonstrated a negative relationship between self-concept and response variability. (JR)

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SELF-CONCEPT AND RESPONSE VARIABILITY AS PREDICTORS OF LEADERSHIP EFFECTIVENESS IN COOPERATIVE EXTENSION*

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Introduction

Leadership effectiveness is one of the most sought-after goals in organizations, agencies, and institutions. The success or failure of program efforts oftentimes can be credited to a person's leadership ability. Cooperative Extension is one such organization that depends heavily on the ability of professional staff members to orchestrate the development of meaningful programs that will have a positive educational impact.

But this task obviously cannot be done by one person alone. The task, if done correctly, necessitates the involvement of many people in the planning, implementation and evaluation of a variety of adult and youth education programs that focus on the needs of the learners. Thus, the professional staff member is in a key leadership position. The extent to which a person functions effectively in this leadership role has been a concern of this writer since an ineffectual person can negatively influence both educational effectiveness and future financial support not only in the professional's area of responsibility, e.g., one county, but also of the total organization, e.g., state-wide Cooperative Extension efforts.

A review of leadership theories[1] was made to determine which theories, if any, might have pragmatic significance in an adult education organizational setting such as Cooperative Extension. Of the many theories that have been advanced, two continually surface in the literature. These are the Ohio State studies and the Contingency Model theory. The former was based on the study of leadership behaviors rather than traits of leaders which had been the focal point of other leadership studies.[2] Through the use of the Leader Behavior Description Questionnaire (LBDQ) and the Leadership Opinion Questionnaire (LOQ), factor analytic studies produced two factors, consideration and initiation of structure in interaction, which reflected two basic leadership behavior patterns.

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The latter theory, developed by Fiedler,[3] appeared to embody some of the concepts of the former and to advance the theory further by considering not only leader behavior but situational factors as well. Since the Contingency Model theory appeared to possess pragmatic as well as theoretical significance, it was considered further to determine its possible utility in an educational organization. In so doing, several questions arose which appeared to remain unanswered in the literature and which deserve consideration if the theory is to be better understood and pragmatically useful.

The questions focused on one component of the Contingency Model, the "Esteem for the Least Preferred Coworker" (LPC) instrument. This instrument purportedly identifies leadership style which, it has been suggested, is based on certain underlying personality characteristics of the leader. Thus far however, these underlying personality characteristics have defied explanation. Since tests of relationship in previous research have yielded little in the way of concept clarification, and since the variable, leadership style, measured by the LPC instrument is central to the theory, yet not well understood, the present study was designed to investigate leadership style in an attempt to clarify this important segment of the theory. Referring to the LPC measure McMahon[4] stated,

> The LPC score may be considered the most crucial variable in the model since it purports to measure leadership style. Fiedler states that style refers to the underlying need structure of an individual which motivates his behavior in different leadership situations, while behavior denotes the particular acts of the individual.

One factor which appeared to be relevant to one's leadership style is that of the individual's perception of "self", his/her "self-concept". This subject was researched vis-a-vis the contingency model, with special attention given to the LPC instrument. Also considered was the extent to which a person varied in his/her responses (response variability) in the appraisal of that person's least preferred coworker. Specifically, the investigation from which this paper derived attempted to:

a. determine the extent to which LPC score was associated with leader self-concept;

b. learn whether persons who score in the intermediate range of the LPC instrument differ from those who score in the high or low ranges in self-concept; and

c. determine whether the contingency model theory is applicable to organizations which function through coacting rather than interacting task groups.

Purpose of This Paper

The purpose of this paper is to:

a. Present the theoretical framework within which the study was conducted;
b. Explain the population used in the study;
c. Present the instrument developed to make a comparative analysis of leadership effectiveness; and
d. Share the findings of the investigation with respect to self-concept and response variability, with consideration given to the possible utilization of the C.M. theory in other adult education situations.

Significance of the Study

The investigation appeared important in two major aspects. First, was its contribution to basic research with respect to the clarification of one of the principle components of the contingency model, the LPC instrument. The interpretation of what LPC measures has been in a state of evolution for several years. It was first suggested that LPC was simply a "measure of emotional reaction to people with whom one cannot work."[5] From this evolved the interpretation most writers have discussed, the task vs. relation orientation of low and high LPC leaders. The next consideration was that LPC measures cognitive complexity and differentiation. The latest interpretation is that LPC identifies a goal hierarchy. Further investigation of this measure certainly appears needed for the theoretical clarification of the instrument. Thus far, few, if any, personality characteristics have been shown to be correlated with LPC. Even those that have shown a relationship with LPC score have not been highly correlated with it. The study of self-concept in relation to LPC attempted to shed some light on certain underlying personality characteristics which the LPC instrument supposedly reflects.

A second contribution of this investigation was in the possible application of the theory in organizational settings. If organizations were able to match the situation to the prospective leader's personality by utilizing the concepts embodied in the contingency model during the screening process, thereby placing the person in the most appropriate location to match his leadership style, and providing the most appropriate in-service education, the individual's leadership effectiveness would be maximized. Such a marriage between theory and practice should be far more effective than the trial and error process which is all too often employed in the placement of persons in leadership roles.

Contingency Model Theory

To facilitate the reader's understanding of the investigation, it is necessary to review, albeit briefly, the theory within which the present study was formulated. A more complete presentation may be found in A Theory of Leadership Effectiveness.[6]

In assessing the state of the literature with respect to leadership, Fiedler noted that there was a need to develop a systematic body of knowledge that could serve as a theoretical framework to organize research findings. In an attempt to develop a framework around which to build a leadership theory, Fiedler conducted extensive research based on the premise that effective leadership is contingent upon both the motivational system of the leader and the degree to which the leader has control and influence in a particular situation. To understand this theory one needs to understand the principle component parts of the model, precisely what is meant by leadership and by the situation.

Leadership Dimension

Looking first at this component of the model, Fiedler differentiated between leadership behavior and leadership style. By leadership behavior is meant those overt acts which a leader displays during the course of leading and directing the group. Leadership style denotes the individual's underlying need-structure which motivates and determines his behavior in a given situation.

Over a period of years a rather simple instrument evolved which is believed to measure interpersonal perception and differentiates between two different leadership styles, the task-oriented and the relationship-oriented leader. This instrument is called the "Esteem for the Least Preferred Coworker" (LPC) instrument. It contains a certain number (usually 16) of eight-point bi-polar adjectives on a semantic differential scale on which the leader rates a person in his past or present work experience with whom it was most difficult to perform a task and with whom he would least prefer to work if given a choice (see Appendix I). The resultant score is obtained by summing the individual bi-polar adjective scores and dividing by the total number of items. The average score then identifies the respondent as a high or low LPC. The test-re-test reliability of the instrument has ranged from .31 to .57 over an 8 week period in one study but correlations as high as .70 have been obtained in other studies. A test-re-test correlation of .62 ($p=.01$) was obtained by this writer on 39 subjects. The span of time between first and second test administration ranged from 7 to 21 months.

The model suggests and studies have indicated that the low LPC (task-oriented) leader is more effective, in terms of certain group performance measures, in situations which are either highly favorable or unfavorable for the leader. The high LPC (relationship-oriented) leader, on the other hand, is more effective in situations which are only moderately favorable for the leader. Favorableness is defined as "the degree to which the situation enables the leader to exert influence over his group."[7]

Situation Dimension

Once the leadership style is identified, it is necessary to consider the situation in which the leader is to function. Fiedler identified three variables that describe the situation, leader-member relations, task structure, and position power. Each of the three are treated as dichotomous variables which, when combined, form eight combinations. The three variables describe the degree of situational favorableness for the leader to perform the leadership function. Octant 1 is considered highly favorable for the leader since it is characterized by good leader-member relations, a high task structure, and strong position power for the leader. Octant 8, on the other hand, is unfavorable for the leader since it is low in all three dimensions with poor leader-member relations, weak task structure, and weak position power. Octants 4 and 5 are characteristic of moderate favorableness. Table 1 shows the eight situations in a different manner with Octant 1 being most favorable and Octant 8 being least favorable for the leader.

Table I. Situational Favorableness for the Leader on the Basis of Three Variables

Octant	Leader-member Relations	Task Structure	Position Power
1	Good	High	Strong
2	Good	High	Weak
3	Good	Low	Strong
4	Good	Low	Weak
5	Poor	High	Strong
6	Poor	High	Weak
7	Poor	Low	Strong
8	Poor	Low	Weak

It will be noted that the contingency model requires that each of the three intervening variables which comprise the situational favorableness dimension be treated as dichotomous variables. The three variables are operationalized in different ways.

The leader-member variable is determined in one of two ways. The first method involves the use of a "Group Atmosphere" instrument which the leader completes either during or after the group performance of its task. This instrument is similar in design to the LPC instrument. This fact has been the cause of concern to researchers who have raised questions about the possibility of internal contamination of the contingency model since the leader completes both the LPC and the Group Atmosphere instruments and since five of the 10 Group Atmosphere adjectives are identical to those found in the LPC instrument. Also, the time span between the administration of the two instruments has been sufficiently short to produce a contaminated effect between the two measures.

The second method for determining leader-member relations is through a sociometric preference rating which the members complete either during or after group interaction toward the task. Fiedler[8] indicated that this method would provide a valid estimate of leader-member relations in groups which live and/or work together over an extended period of time.

The second variable, Task Structure, is defined as the degree to which the task facing a group is structured (organized) or capable of being programed. It may be operationalized by having a group of "experts" consider four aspects of the task. These include:

1. Decision verifiability. The degree to which the correctness of the solution or decision can be demonstrated either by appeal to authority, by logical procedures, or by feedback.
2. Goal clarity. The degree to which the requirements of the task are clearly stated or known to the group members.
3. Goal path multiplicity. The degree to which the task can be solved by a variety of procedures.
4. Solution specificity. The degree to which there is more than one correct solution.

When the results are compiled the mean scores are combined and compared with the median score. Average scores below the median constitute an unstructured task while those above the median characterize a structured task.

Position Power is the third intervening variable affecting situational favorableness for the leader. It is defined as "the degree to which the position itself enables the leader to get his group members to comply with and accept his direction and leadership."

It is suggested that this variable be operationalized by asking a group of "experts" to complete a checklist which contains various indices of position power. The completed items are summed and compared with the median score possible. Average scores above the median indicate high position power. Scores below the median reflect low position power.

Given a specific situation and knowledge of the individual leader's LPC score the model then becomes a predictor of that leader's potential effectiveness. Figure 1 depicts LPC/Group Effectiveness correlations compiled by Fiedler and others which form the basis for the model's predictive ability. The x-axis represents the eight octants which reflect the situations, ranging from highly favorable to unfavorable for the leader. The y-axis represents the correlations between the leader's LPC score and group performance. A positive correlation indicates that high LPC leaders were more effective while a negative correlation indicates that better group performance was achieved by low LPC leaders.

As Figure 1 illustrates, low LPC leaders appear to be more effective in situations which are highly favorable or unfavorable for the leader while high LPC leaders are more effective in situations which are intermediate in favorableness. Octants 1, 2, and 3 are characterized as being favorable for the leader since that person feels accepted, and has either a structured task with which he feels comfortable, or an unstructured task to accomplish but strong position power to direct task-relevant activities. The low LPC leader, who has been characterized as controlling, directing, and maintaining social distance (being less concerned with establishing close interpersonal relationships) with his group members will be more effective than the high LPC leader who, feeling just as accepted and comfortable in the situation appears to remain relatively passive, non-directive, and permissive.

In situations of intermediate favorableness the leader may have less formal control as a result of both an unstructured task and weak position power but has good leader-member relations. Or he or she may have formal authority (strong position power) and a structured task but poor leader-member relations. In either case high LPC leaders have been more effective. This has been attributed to the fact that they interact more intensively with their members, become more responsive to the group and more relationship oriented.

This leadership behavior is desirable in unstructured task situations (Octant 4) since the creativity of group members surfaces to work toward goal attainment. This leadership behavior also is desirable in situations with structured tasks but poor leader-member relations (Octant 5) since the more conciliatory, permissive, considerate leader is more likely to overcome the poor

leader-member relations and accomplish the task, than is the controlling, authoritarian leader who is more likely to further alienate himself from the group.

Low LPC leaders again appear more effective in more negative or unfavorable situations which consist of poor leader-member relations, an unstructured task, and weak position power. The task relevant behavior of the low LPC leader will seek to accomplish the goal regardless of the state of the relationships that exist between the leader and the members and will direct activities regardless of his limited formal position power. The high LPC leaders dominant need structure, the establishment of positive interpersonal relations, will produce nonfunctional or dysfunctional interactions with the members, thereby limiting the productivity of the group.

One unfavorable situation that has, thus far, yielded especially ambiguous results is Octant 7, described as having poor leader-member relations, unstructured task and strong position power. High LPC leaders appear to be somewhat more effective in this situation, perhaps due in some way to the strong position power which provides the leader with a modicum of legitimate authority (as in Octant 5) to capitalize on the creativity, opinions, and feelings of the group members thereby minimizing the poor leader-member relations and maximizing task attainment.

Unfortunately, no research has been conducted on Octant 6 and it will not be considered further in the present investigation.

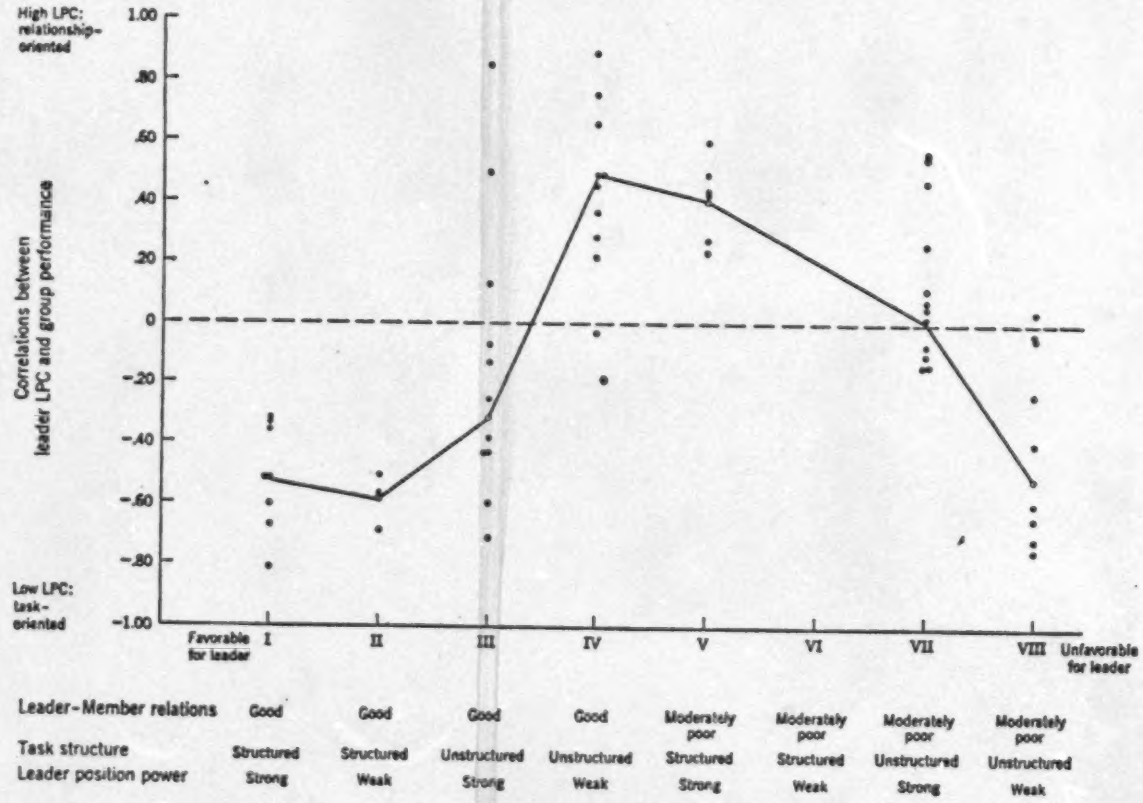
Hypotheses

The contingency theory has not been without its critics, among them Fiedler himself. Both theoretical and methodological questions have been raised about various components of the model. The investigation contained certain hypotheses which are beyond the scope of this paper, hence, have not been included. Only those hypotheses which reflect on the two variables in question, self-concept and response variability, have been presented.

Hypothesis No. 1

The basic premise of the contingency model is that the individual's leadership style, as depicted in the LPC instrument, does in fact, reflect something of his or her personality. It would appear that basic to an individual's personality is his view of himself, his self-concept. For purposes of this study self-concept refers to "the organized cognitive structure derived from one's experience of his own self."[9] That one's self-concept is vital to his interpersonal perception has been supported by Coleman[10] who noted that, as each

Figure 1. Correlations between leaders' LPC scores and group effectiveness plotted for each cell.[a]



a. From Fred E. Fiedler, A Theory of Leadership Effectiveness, 1967, p. 146. Used with permission of McGraw-Hill Book Co.

person's "self-structure emerges, it becomes the essential integrating core of his personality--the reference point around which his experiences and reaction patterns are organized."

Harry Stack Sullivan[11] also suggested that one's relationship to others is determined, to a large extent, on his perception of his own "self-system". He wrote, "From all that I have suggested you may see that it is no extraordinary use of inference to presume that self-respect is necessary for the adequate respect of others."

One method of assessing one's self-concept is determining the relationship between one's perceived "real" self and his perception of his "ideal" self. This relationship is sometimes stated as one's self/ideal-self congruence. It would appear that the greater the congruence between one's self/ideal-self the freer the individual is or would be to concern himself with others as the situation demands. Conversely, the greater the discrepancy between one's self/ideal-self (low congruence) the less able he would be to concern himself with others since his major concern, whether conscious or subconscious, is to narrow the gap between his real and his ideal self perception.

It would then follow that those with a high self-concept (high self/ideal-self congruence) might have a greater "psychological freedom" to engage in situations potentially threatening to self-structure than would those with a low self-concept. If this were true of persons in leadership capacities, then those with a high self-concept would score higher on group performance measures which reflect more challenging, more enterprising efforts. Those with lower self-concepts would score higher on less threatening, less daring measures. To test this proposition the following hypothesis is suggested:

> A RELATIONSHIP EXISTS BETWEEN SELF-CONCEPT AND MEASURES OF GROUP PERFORMANCE. PERSONS SCORING HIGHER ON A MEASURE OF SELF-CONCEPT WILL SCORE HIGHER ON MEASURES OF GROUP PERFORMANCE WHICH REFLECT GREATER CHALLENGE. PERSONS WITH A LOWER SELF-CONCEPT WILL SCORE HIGHER ON MORE SIMPLISTIC MEASURES OF GROUP PERFORMANCE.

Hypothesis No. 1-A

What then of self-concept vis-a-vis LPC score? Is there any relationship between the two? There has been limited research in this area. Bass et al.[12] found a negative relationship between both a person's self-esteem and his ideal self-esteem, and LPC score. Bishop,[13] investigating a different aspect of the LPC/self-concept relationship found that the self-esteem[14] of high and low LPC leaders was differentially affected. High LPC leaders were found to improve on measures of self-esteem if they experienced interpersonal success, whereas low LPC leaders improved on the same measure when they were satisfied that they

succeeded in task accomplishment. This study supported the task/relationship dichotomy of low and high LPC leaders. It also suggests that low and high LPC leaders are affected differentially with respect to their self-concept.

It could be postulated that high LPC leaders, with a lower self-concept, have a need structure that demands positive feedback from others to enhance their self-concept. Thus their need for interpersonal experiences. Low LPC leaders derive satisfaction from within their self-structure due to their positive self-concept. It could also be postulated that those with a high (positive) self-concept, being more self-confident, feel freer to be critical of others. Consequently, when asked to rate their least preferred coworker, they might react in rather negative terms thereby attaining a low LPC score. In an effort to determine the relationship, if any, between this concept and LPC the following hypothesis is suggested:

> A NEGATIVE RELATIONSHIP EXISTS BETWEEN SELF-CONCEPT AND LPC SCORE. THE LOWER ONE'S SCORE ON THE LPC INSTRUMENT THE MORE POSITIVE WILL BE HIS SELF/IDEAL-SELF CONGRUENCE.

Hypothesis No. 2

The contingency model has been subjected to much critical analysis since its inception in the early 1950's, with considerable attention given to the LPC instrument, since it seems to defy attempts to clarify it. Fiedler suggested that an individual's LPC score reflects certain underlying personality characteristics. Unfortunately, little evidence supports this notion. Analysis of the LPC instrument and its underlying theory raises questions which deserve further attention if the theory is to be better understood and of practical value in the future.

As stated earlier, a person scoring low on the LPC measure is described as being more task-oriented and performs more effectively in situations which are either favorable or unfavorable for the leader. An individual with a high LPC score, on the other hand, appears to be more relationship-oriented and performs more effectively in situations which are only moderately favorable for the leader. One question that arises and has not yet been resolved focuses on the individual who scores in the mid-range of the LPC instrument. Fiedler suggested that a third type of interpersonal style might be measured by medium positions on the LPC scales. He reported that Bass et al. found that those who scored in the mid-range of the LPC instrument appeared to be "cognitively more complex, less authoritarian or acquiescent, less concerned with socially desirable responses and was more critical and task-oriented than either the high or low LPC person."

To achieve a low LPC score one needs to rank his least preferred coworker in a consistently negative manner (1, 2, or 3 on an 8-point scale) on most of the bi-polar adjective items on the LPC instrument (see Appendix I). A high LPC individual, on the other hand, must score his least preferred coworker in a consistently favorable manner (6, 7, or 8 on an 8-point scale) to achieve a high score. Consider for a moment the individual who achieves a total score in the middle range (between 3.36 and 4.05 average score).[15] It could be that this individual exercises considerably more flexibility in his judgements about his least preferred coworker than either the high or low LPC leader. If this were true, perhaps this person would be equally capable of exhibiting flexible or differential behavior in a variety of leadership situations ranging from favorable to unfavorable for the leader and would be more effective overall than less flexible leaders.

Or, the person who scores in the middle range of the LPC measure may simply be a middle-of-the-road individual who typically responds to questionnaires in a neutral fashion by selecting mid-range responses. This person would be no more variable in his responses than the high or low LPC person. In order to address the question of response variability and based on the issue of cognitive complexity the following hypothesis is suggested:

> A CURVILINEAR RELATIONSHIP EXISTS BETWEEN LPC SCORE AND RESPONSE VARIABILITY WITH PERSONS SCORING IN THE INTERMEDIATE LPC RANGE EXHIBITING GREATER VARIABILITY IN THEIR RESPONSES TO THEIR LEAST PREFERRED COWORKER THAN THOSE SCORING AS HIGH OR LOW LPC PERSONS.

Hypothesis No. 3

To what extent does the leader's self-concept influence his response to the items used to describe his least preferred coworker? Do persons with a higher or lower self-concept exhibit more differential behavior with respect to their appraisal of their least preferred coworker? Several alternative considerations could be advanced. It could be that those with a lower self-concept are more attuned to the strengths and shortcomings of another, in this case the person identified as their LPC, and would exhibit this knowledge through differential responses to the LPC items.

Or, it could be as Krech et al.[16] suggests, that "every person, to a greater or lesser degree, sees others in his own image, through attributing his traits to others." If this were the case, a low self-concept person would choose carefully not to rate his least preferred coworker in completely negative terms because it is a reflection, of sorts, of his own self-concept. He would, instead, be more selective in his responses.

The high self-concept person might react to his LPC in negative terms because of cognitively dissonant results in the work situation in which the task was not accomplished as well as if the LPC were a better worker. Since the person with a high self-concept views himself in positive terms his cognitive dissonance is considerable when faced with the task of recalling a person with whom he could work least well. One way to achieve internal harmony would be to rate his least preferred coworker in rather negative terms.

Given these arguments the following hypothesis was postulated:

A NEGATIVE RELATIONSHIP EXISTS BETWEEN SELF-CONCEPT AND RESPONSE VARIABILITY WITH PERSONS SCORING LOW ON A MEASURE OF SELF-CONCEPT EXHIBITING GREATER VARIANCE IN THEIR RESPONSES TO LPC ITEMS.

A counter argument, however, could be advanced with respect to the self-concept/response variability relationship. This is the possibility that the person high in self-concept is relatively stress-free vis-a-vis his internal frame of reference and thus is free to evaluate his LPC in a more discriminating manner as evidenced by greater response variability. These divergent arguments are not without merit but need to be put to the test in order to clarify any possible relationship between self-concept and response variability. Therefore, the following null hypothesis was tested in this investigation:

THERE IS NO RELATIONSHIP BETWEEN SELF-CONCEPT AND RESPONSE VARIABILITY.

Selection of an Organization

Cooperative Extension was selected for several reasons as the organization in which this study would take place. First, the author was mainly interested in investigating theories of leadership as a means of improving the leadership effectiveness within the organization of his employment. Second, the bulk of Fiedler's research has been with respect to interacting groups. And yet, he indicated that a substantial proportion of groups in organizational settings are coactive in nature.[17] He further suggested that more research is necessary with coacting groups to determine the contingency model's applicability to groups of this nature.

Cooperative Extension is one such organization wherein group performance toward goal attainment is based on the collective but not sequential or interdependent effort of individual members. The third reason Cooperative Extension was selected is the relative size of this adult education organization and the implications of a leadership study for improved performance. In New York State alone over 600 professionals are employed at county, regional (multi-county),

and state levels of responsibility. In addition, more than 500 paraprofessionals are employed on a part-time or full-time basis and well over 50,000 persons annually volunteer time to perform leadership roles, e.g., 4-H leaders, adult group leaders, or various committee members. Given the size of the organization in New York State and considering that Cooperative Extension is operational in all 50 states, an investigation which might lead to improved leadership effectiveness in New York State would not only be pragmatically desirable but would yield data generalizable to Cooperative Extension programs in other states as well.

Selection of Respondents

Of the five major program areas in Cooperative Extension, EFNEP was selected for two basic reasons. First, EFNEP employs the largest single group of paraprofessionals in the organization, which would allow for a systematic study of professional/paraprofessional (or leader/member) relationships throughout the state. Second, it is the one program in Cooperative Extension which has quantifiable data readily available for each EFNEP unit by virtue of the fact that semi-annual reports must be made to Extension Service-United States Department of Agriculture (ES-USDA).

This program area also had the benefit of being much more goal-specific than the other components of extension, which aided in the quantification of group productivity.

In FY 74, 60 home economists were identified as having primary responsibility for EFNEP sometime during the year. They worked with approximately 410 paraprofessionals in the 56 units of the state. Usually, a different professional is assigned to each EFNEP unit. However, there are two exceptions. In two instances, neighboring counties arranged to have one home economist assume responsibility for EFNEP in both counties, utilizing a different group of paraprofessionals in each county. Therefore, different measures of group performance have been obtained for each county, recognizing that the same professional is identified as the leader for each of the two groups.

Due to resignations, retirements, or transfers within the organization, of the 60 home economists who comprised the total populations of EFNEP professionals, 47 could be included in that part of the investigation which was addressed to a test of the contingency model.

Another factor which reduced the sample to 47 was the determination that a proper investigation of comparative group performance necessitated the professional and the paraprofessionals having worked together as a task group

through two reporting periods[18] in FY 74. Each of the 47 task groups consists of a professional and one or more paraprofessionals. (For purposes of this investigation the terms "leader" and "member" will be substituted for "Professional" and "paraprofessional" to be consistent with contingency model terminology.) The task groups meet at times specified by the leader, usually once a week or twice a month, for the dissemination of information, in-service education, reporting and other administrative and program matters.

Demographic Data

The following demographic data may help the reader gain a greater understanding of the professional staff members (leaders) who were the subjects in this investigation (N=60).

Sex. With the exception of three males the professional home economists in this study were females (57).

Age. The majority (60%) of professionals are between 21 and 40 years with over half of that percentage (35%) under 30 years.

Education. All professionals held a baccalaureate degree, which is a prerequisite for employment as a professional in Cooperative Extension. However, 45% have taken advanced course work leading to a higher degree and 35% already hold a Master's degree.

Experience. With respect to total experience as a professional home economist the majority (53%) had less than 10 years experience while 38% had over 20 years experience. A different picture emerged as home economics experience in Cooperative Extension was noted. Approximately 73% had less than 10 years experience while only 6% had more than 20 years experience in extension.

These data suggest that the home economist position in Cooperative Extension is comprised mainly of females who are interested in furthering their formal education and who bring to extension a range of experience from other organizations.

Instrumentation for Tests of Variables

Since the contingency model is the focal point around which this study evolved the instruments used to test the variables either derived from the model or were selected or developed to test certain variables associated with the model. This section will describe the three independent variables, LPC, Self-Concept and response variability, and the dependent variable, leadership effectiveness. Two measures, "Single Factor Score" and "Exposure Index" will be discussed since they reflect group productivity and thus leadership effectiveness. Three moderating variables which reflect the situational favorableness dimension will

not be discussed in this paper. They are available from this writer.

Independent Variables

Least Preferred Coworker (LPC) Instrument (Appendix I). This instrument, briefly described earlier, consists of a certain number of bi-polar adjectives (e.g., pleasant-unpleasant; cooperative-uncooperative). Each leader is asked to think of a person in his present or past experience with whom he could work least well. Then, he is to describe that individual by rating that person along an eight-point scale for each bi-polar adjective. A total score is obtained by adding each number circled. An average score is then derived by dividing the total score by the number of bi-polar adjectives (16 in this study).

For purposes of testing the contingency model and for correlational tests LPC score has been treated as a continuous variable. When addressed to hypothesis no. 2 the LPC score was trichotomized with average scores less than 3.36 considered low LPC, scores between 3.36 and 4.06 intermediate LPC, and scores greater than 4.06 high LPC. This is consistent with previous research conducted by Fiedler who used the same scores in differentiating between the three LPC groups.

Again using the LPC instrument, a Response Variability score for each respondent was arrived at in the following manner: An average score was first obtained in the manner mentioned above, the individual item scores were each subtracted from the average score, the difference squared, totalled and divided by 16 (the number of bi-polar adjectives) to obtain an average variability score for each subject. To test hypothesis no. 2 the subjects were divided into high, intermediate, or low LPC groups. The three groups were then compared according to their response variability.

To test hypothesis no. 3 subjects were trichotomized according to Response Variability score only, without regard to relative LPC categorization. The high and low Response Variability groups were combined (N=41) and correlated with the independent variables under consideration, intelligence and self-concept, as well as the Group Atmosphere instrument. Those with Response Variability scores between 0.5 and 2.7 constituted the low variance (INVAR) group (N=21) and those scoring between 4.3 and 8.7 comprised the high variance (VAR) group (N=20).

An attempt was also made in this investigation to address the issue of test-retest reliability of the LPC instrument since this measure is central to the present investigation. Previous research obtained correlations ranging from the .30's to the .70's over time.[19] In the present study respondents were asked to complete the LPC instrument immediately following completion of the personal data.

Several other instruments (discussed in subsequent paragraphs) were completed by each subject after which the LPC instrument was again administered approximately one hour later. Respondents were given the same instructions as in the previous administration, and were asked to consider the same individual whom they identified as their least preferred coworker earlier. The test-retest correlation obtained from 34 subjects was .92 which was highly significant. On the basis of the present reliability test and the significant results obtained in previous reliability studies this writer felt the instrument has a high degree of reliability for purposes of this investigation.

Self-Concept (Appendix II). To address the issue of self-concept the Q-sort[20] technique was selected because, according to Wylie[21] it reduces one possible theoretical confusion in assessing phenomenal self-regard. Wylie noted that to be consistently phenomenological the concern must be with measuring the degree of discrepancy or disparity between one's phenomenal self and his phenomenal ideal-self, rather than between his phenomenal self and some cultural stereotype of the ideal person. While one's ideal self may resemble considerably the culturally accepted ideal type, it is still the individual's, rather than someone else's, perception of his ideal self that is measured. Any discrepancy then, comes from within the individual rather than from some external source.

The adjective Q-sort developed by Block is a modification of the California Q-sort (also developed by Block) for use by non-professional sorters. The directions include asking each subject to sort the 70 adjectives on a sheet into 7 sets of 10 adjectives each, ranging from those adjectives which are most characteristic or descriptive of that person's perception of his real self to those least characteristic of his/her real self. Upon completion of this sort the sheet is returned to the test administrator and the person is asked to again rank the adjectives on a separate sheet, in the same manner. But this time the ranking is to reflect how the subject feels he or she should be ranked according to his or her ideal self. A statistical procedure[22] determines the correlation between the two rankings. This correlation becomes the self/ideal-self congruence (the self/ideal-self discrepancy). This measure was also treated as a continuous variable in correlational tests.

Dependent Variables

A test of the contingency model requires a measure of group performance or productivity on which to make a determination of comparative leadership effectiveness. Two performance measures were employed in this investigation, a Single Factor Score and an Exposure Index.

Single Factor Score. Operationalizing the contingency model necessitates the use of a group performance measure that is generally known or accepted by the task group members. In addressing himself to group performance measures Fiedler indicated that other investigators have suggested that any task performance could be utilized as a criterion. It could, among others, include group productivity or output, the satisfactions of the members, or the morale of the group. However, he asserted

> it seems at least equally reasonable to take the position that the group typically owes its very existence to the tasks it is supposed to perform and that it will be evaluated primarily on the basis of these task performances rather than on the satisfaction and morale of the members of the group.[23]

Considering this viewpoint a review of information that had been sent to each unit by the state EFNEP office, the office in which EFNEP Program Coordinators carry out their responsibilities for the conduct of EFNEP in New York State, revealed only one goal-specific document. In January 1973 a graph was circulated on which was plotted the number of program families[24] enrolled per Full Time Equivalent (FTE).[25] It was stated that the goal for the state average should increase from 28 to 40 program families enrolled per FTE. This then became or had the potential of becoming a goal toward which each unit would work.

Since it is necessary to apply a measure of group productivity that is known to all groups the contingency model was first tested according to the single criterion measure mentioned above. This measure will henceforth be referred to as the "Single Factor Score" in this investigation. It must be asserted, however, that this single measure does not adequately reflect the degree to which the program is accomplishing its stated mission.

Exposure Index. In an attempt, then, to rectify the situation, an analysis was made of ES-USDA reports to ascertain whether other measures exist which could more accurately portray the group's productivity or effort. It is well recognized that qualitative measures are needed if one wished to determine directly if any behavioral changes occurred in the clientele as a result of EFNEP. In the absence of such measures, however, the question arose of which quantitative measures might serve to reflect on the comparative degree of clientele exposure to program aides, assuming that the greater the exposure the more opportunity there was to provide the clients with suitable food and nutrition information that would ultimately improve their diets. As a result of this need an attempt has been made in this investigation to develop a single performance measure, an "Exposure Index" that combines several factors.

On the basis of the reliability of certain factors over a two year period, they were combined into one formula to arrive at a single score which reflects the expenditure of effort on the part of each unit's group members presumably based on the extent to which the leader motivated each member to carry out the assigned task. This more comprehensive performance measure will henceforth be referred to in this study as the "Exposure Index" in contrast with the "Single Factor Score" mentioned earlier.

The formula for the Exposure Index is as follows:

		A.		B.		C.		D.
Exposure Index	=	Number of Families Worked With	x	Difficulty Factors	+	Multiple Effort	-	Families Ignored

Where:

A. "Number of Families Worked With" includes all program families reported as having been worked with in the reporting month.

B. "Difficulty Factors" include:

   a. Percent homemakers with 8th grade education or less (low literacy factor)

   plus:

   b. Percent program families receiving USDA Food Stamps (low income factor)

   plus:

   c. a 1.00 factor to counteract a lessening effect from the above percentages.

C. "Multiple Effort" is derived by subtracting the number of program families worked with from the number of aide visits to program families during the reporting month. This has the effect of giving extra credit for multiple visits in the same family.

D. "Number of Families Ignored" is derived by subtracting the number of families worked with from the total number of program families enrolled. This represents the number of families enrolled but not contacted during the reporting month.

The Exposure Index takes into consideration at least three important factors with respect to the purpose of EFNEP:

1. It is addressed to the target audience, i.e., the low income audience, with consideration given to low literacy as well which is an additional problem to the low income families and to the aides who must spend more time with the low literates to convey their message.

2. It penalizes those units that enroll large numbers of program families but do not work with them.
3. It favors programs whose aides actively work with, or at least expose, target families to EFNEP through more than one contact per month.

It must be recalled that an assumption is made that the greater the exposure of program families to EFNEP the greater the possibility for attaining the mission of EFNEP, to provide food and nutrition information to low income audiences to improve their diets. Thus, the "Exposure Index" is considered a valid measure for the comparison of group performance among the EFNEP units.

Considering the possibility that the Exposure Index was merely an elaboration of the Single Factor Score which would yield equivalent results, the two measures were subjected to a Pearsonian test of relationship. Little association was found between the two measures (r=.07, n.s.).

Respondents & Data Analysis

Of the 56 units available during the time period established for this study (Fiscal Year 1974) nine consisted of groups whose leader (the professional) was not employed during two reporting periods. As a result, that portion of the study which utilized group performance measures was based on a sample of 47. Correlations between major variables and those pertaining to an analysis of the LPC instrument were based on the total population of EFNEP professionals (N=60).

This investigation has focused on possible relationships that may exist between major independent variables and the contingency model. Pearson Product-Moment correlations (Rho) were computed and are reported in this chapter. Those correlations that were significant at the .05 or .01 level of significance are so identified. All other correlations failed of significance at the .05 level.

Hypothesis No. 1

A RELATIONSHIP EXISTS BETWEEN SELF-CONCEPT AND MEASURES OF GROUP PERFORMANCE. PERSONS SCORING HIGHER ON A MEASURE OF SELF-CONCEPT WILL SCORE HIGHER ON MEASURES OF GROUP PERFORMANCE WHICH REFLECT GREATER CHALLENGES. PERSONS WITH A LOWER SELF-CONCEPT WILL SCORE HIGHER ON MORE SIMPLISTIC MEASURES OF GROUP PERFORMANCE.

With respect to both measures of group performance, Single Factor Score & Exposure Index, the relationship was in the predicted direction but at non-significant levels. The self-concept/Exposure Index correlation was .19 (n.s.) and the self-concept/Single Factor Score correlation was -.15. While the hypothesis was not supported at the .05 level of significance, the fact that the data in both instances were in the predicted direction suggests that self-concept

may well be a factor affecting the manner in which leaders address themselves to group goals and to the direction of group members to the attainment of group goals.

Hypothesis No. 1-A

A NEGATIVE RELATIONSHIP EXISTS BETWEEN SELF-CONCEPT AND LPC SCORE. THE LOWER ONE'S SCORE ON THE LPC INSTRUMENT THE MORE POSITIVE WILL BE HIS SELF/IDEAL-SELF CONGRUENCE.

A test of linearity as demanded by the hypothesis not only failed to support it but was in a direction opposite to that predicted (N=60, r=.10, n.s.). Considering the possibility that the relationship lacked linearity a test of nonlinearity was computed. The result (Eta = .19), when compared with the linear correlation, was not significant at the .05 level. The results counter those found in the Bass et al.[26] study wherein a significant negative relationship (r=-.15) was determined between ideal self-esteem and LPC. The different results could be due to several causes, among them a different interpretation or measurement of self-concept. As Wylie[27] pointed out a problem exists with respect to this variable. She stated that "stability of self-concept measures remains a major theoretical and empirical problem." On the basis of her assertion that the "Q-sort technique is useful in assessing phenomenal self-regard"[28] this technique was incorporated in the measurement of self-concept in this investigation. To this writer's knowledge, other than the Bass study, no other attempts have been made to assess the degree to which leader LPC is related to his self-concept.

Hypothesis No. 2

A CURVILINEAR RELATIONSHIP EXISTS BETWEEN LPC SCORE AND RESPONSE VARIABILITY WITH PERSONS SCORING IN THE INTERMEDIATE LPC RANGE EXHIBITING GREATER VARIABILITY IN THEIR RESPONSES TO THEIR LEAST PREFERRED COWORKER THAN THOSE SCORING AS HIGH OR LOW LPC PERSONS.

To test this hypothesis a response variability score was calculated for each subject who was previously categorized as high, intermediate, or low LPC. Each group was averaged to obtain a mean variability score for that group. Table II indicates the mean, variance, and standard deviation of each group.

Table II. Mean response variability scores, variance, and standard deviation of low, intermediate, and high LPC.

LPC Group	N	Mean Score	Variance	Standard Deviation
Low	22	3.011	2.486	1.576
Intermediate	17	4.543	1.895	1.377
High	21	3.358	3.956	1.989

An analysis of variance was conducted to determine whether significant differences in variability existed between the means of the three groups. Table III indicates that a difference significant at the .05 level appeared.

Table III. Analysis of variance summary table of response variability of low, intermediate, and high LPC groups.

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F	Probability
Among Groups	2	23.889	11.944	4.004	$<.05$
Within Groups	57	170.004	2.982		
Total	60	193.893			

Given that significant differences were evident between the groups, and that the intermediate LPC group displayed a higher mean score of variability, it was then necessary to determine whether the mean differences were significant. A post-hoc multiple comparison between means, when computed, revealed significant differences ($p=<.05$) between the intermediate and the high groups and between the intermediate and low groups but nonsignificant differences between the high and low LPC groups.

The data failed to refute the hypothesis at the .05 level of significance that intermediate LPC's exhibit greater response variability in assessing their least preferred coworkers than do low or high LPC individuals. Had the high LPC respondents scored near or at the upper end of each bi-polar adjective, thus attaining scores near the maximum possible (128) and had low LPC leaders scored near or at the lower end of the scale, attaining scores at or near the minimum (16), the hypothesis could have been considered a statistical artifact. However, this was not the case in this study. With the exception of two extreme scores

(107 and 28), respondents' scores allowed for considerable response variability in all three LPC groups. It must be remembered that total scores less than 53 were assigned to the low LPC group and scores above 65 were assigned to the high LPC group in accordance with Fiedler's divisions.[29] With a possible range of 37 points in the low LPC group and 65 in the high LPC group there exists ample opportunity for response variability to express itself should the respondent be so inclined.

The intermediate LPC group could have exhibited "middle of the road" behavior in their responses. But, in fact, they did not. It appears that this group is in the intermediate range because of the variability of their responses. Apparently this group views their least preferred coworker in partial rather than holistic terms. That is, they evaluate their least preferred coworker according to each bi-polar adjective rather than the more holistic approach taken by both the high and low LPC leaders. As mentioned earlier, high LPC leaders appear to separate their least preferred coworker from the task they had to accomplish together. They appear to take the following attitude, "He was a nice enough person; but we just couldn't work well together to get the job done." Low LPC leaders, on the other hand, seem to identify their least preferred coworker with the task to be accomplished and exhibit an attitude which could be characterized as follows: "He was no good because he didn't help us get the task done." The intermediate LPC leader, it seems evaluates his least preferred coworker in a different manner from the other two groups. It appears that Fiedler accurately assessed the situation by asserting, "A third type of interpersonal style might thus be measured by medium positions on the LPC scales."[30] In an effort to explore this possibility further the remaining hypothesis was investigated.

Hypothesis No. 3

THERE IS NO RELATIONSHIP BETWEEN SELF-CONCEPT AND RESPONSE VARIABILITY.

The evidence obtained in this investigation refutes the null hypothesis of no relationship between these variables. When response variability was treated as a continuous variable with all respondents (N=60), a highly significant negative relationship appeared of sufficient magnitude to aid in prediction ($r=-.37$, $p=.01$). When trichotomized into high variable (VAR), medium and low variable (INVAR) categories (see Table IV) and the medium group removed, the correlation between individual scores in the VAR and INVAR groups and self-concept was still highly significant and of greater magnitude (N=41, $r=-.43$, $p=.01$). These data strongly suggest that self-concept may indeed have an influence on the

response behavior of an individual in assessing his least preferred coworker. Those with a more positive self-concept display relatively inflexible or invariable behavior by rating their least preferred coworker in consistently positive, neutral, or negative terms whereas those with a lower self-concept fluctuate between positive and negative ratings of the bi-polar adjectives in assessing their least preferred coworker.

Table IV. Three categories of response variability scores.

Category	RV Scores	Population N	Group Perf. N
INVARS	0.5 to 2.7	21	17
Mid-VARS	2.8 to 4.2	19	12
VARS	4.3 to 8.7	20	18
Total		60	47

Additional Finding

Although treated earlier in this study in the discussion of outcomes attendant to hypotheses 2 & 3, several results serendipitous to this investigation appeared when response variability was tested in association with the two group performance measures. Table V depicts the correlations obtained when the 47 EFNEP units were compared with response variability treated as an independent variable.

Table V. Association between response variability and two group performance measures (N=47).

Independent Variable	Single Factor Score	Exposure Index
Response Variability	.15	-.28

When response variability was trichotomized as mentioned earlier in conjunction with Hypothesis No. 3, and the mid-VAR removed, the VAR/INVAR groups were combined and treated as a continuous variable. The relationships that appeared (Table VI) were of greater magnitude with both measures of group performance.

Table VI. Association between VAR/INVAR response behavior and two group performance measures (N=35).

	Single Factor Score	Exposure Index
VAR/INVAR	.24	-.32

While the correlations did not attain statistical significance, they did, nevertheless, demonstrate that consideration of the more extreme response behaviors (high and low response variability) is indeed a viable alternative to the possible prediction of leadership effectiveness, regardless of intervening variables. Recalling that the manner in which the intervening variables were operationalized was crucial to the proper application of the contingency model's predictive ability in this investigation, the present discussion of response variability offers exciting possibilities for further investigation in this area.

Summary

This study was designed to contribute to the growing body of knowledge surrounding the contingency model theory of leadership effectiveness conceptualized and developed by Fred E. Fiedler. The theory postulates that leadership effectiveness is contingent both upon the individual's leadership style and the situation in which the leader is placed. In situations depicted as very favorable or very unfavorable for the leader, those leaders whose leadership style is described as being task-oriented are more effective while in situations of moderate favorableness, leaders described as being relationship-oriented, are more effective.

The "Esteem for the Least Preferred Coworker" (LPC) instrument served as the focal point of the investigation since the theory suggests that this instrument identifies leadership style and that one's leadership style is based on certain underlying personality characteristics of the leader. Prior to this investigation few, if any, specific personality traits have been so identified.

It was the intent of this research to determine the extent to which two variables, self-concept and response variability, are related to LPC. Self-concept was measured by means of a modified Q-sort developed by Block. Response variability was measured by the extent to which each subject varied from his mean score in describing his least preferred coworker.

Cooperative Extension in New York State served as the organization in which to test the theory. Specifically, the Expanded Food and Nutrition Education Program (EFNEP) was selected due to several factors including an already established leader-member group setting, quantitative data on each group's productivity, a distribution of groups throughout the state, and most importantly, a specific group goal toward which all groups were striving. Sixty persons comprised the population for tests between major variables. This number was reduced to 47 for tests of the contingency theory.

Three intervening variables which characterize the situation in which each leader was operating needed to be operationalized in accordance with the contingency model. These were: leader-member relations which were dichotomized into good or moderately poor categories, task structure which was determined to be relatively unstructured, and position power of the leader, which was dichotomized according to organizational status (division leader or staff associate). Eight different situations are described by the three variables ranging from very favorable to very unfavorable for the leader. Each situation is identified as one of eight cells or octants.

According to the contingency model, in Octants 1, 2, 3, and 8 low LPC leaders are predicted to be more effective while in Octants 4, 5, 6, and 7, high LPC leaders should be more effective. The octants which most nearly describe the situation in which each leader was functioning was determined during the course of the investigation.

Also needed was a quantitative measure of group performance. Two measures were employed in this investigation, a Single Factor Score as promulgated by the state EFNEP office, and an Exposure Index, developed for this investigation. The Exposure Index encompasses several factors which address themselves to the target audience, low-income families, as well as the extent to which the leader has motivated or encouraged member contact with program families. The Single Factor Score took into account only the total number of program families enrolled in EFNEP.

The first hypothesis, which postulated a negative relationship between LPC and self-concept, was rejected. The correlation, although non-significant, was slightly positive in direction. A test of non-linearity, when applied, failed to indicate a significant departure from linearity.

The remaining three hypotheses were predicted on the pattern of response variability which each subject displayed in reflecting on his least preferred coworker. The first of the three considered the response variability of each

respondent who was first categorized into one of three groups; low, intermediate, or high LPC. The hypothesis advanced the notion that a curvilinear relationship existed between LPC score and response variability, with intermediate LPC leaders displaying greater response variability than either high or low LPCs. An F test indicated that the mean variance score in each group did indeed differ at the .05 level of significance. To determine where the difference existed a post hoc multiple comparison between means was computed with results supporting the hypothesis at the .05 level.

Viewing response variability with regard only to each person's average LPC score it was hypothesized that self-concept was negatively related to response variability. A negative relationship between self-concept and response variability was highly significant at the .01 level indicating that those whose self-concept is relatively high exhibit little variability in their response pattern when assessing their least preferred coworker. Based on these findings what conclusions can logically be drawn?

Conclusions

1. This study was limited to one component of the total Cooperative Extension program and consisted predominately of one sex (57 female, 3 male). It is assumed the respondents are representative of other extension home economists in New York State as well as other states. Also, the fact that all extension employees possess a minimum of a baccaulaureate degree and satisfy the same responsibilities for program and administrative functions, permits the results of this investigation to be generalizable to other program areas in Cooperative Extension, especially those that involve leader-member (professional-paraprofessional) relations as described herein. The primary factor which might adversely effect generalizability to other components of Cooperative Extension is that of sex. The typical male/female ratio in Cooperative Extension is 1:1. Previous research relative to the variables under consideration has not mentioned sex as a factor effecting outcomes. This may be a question for future research; however, this writer assumed that the findings were generalizable to Cooperative Extension personnel regardless of sex.

2. Although the entire population of extension home economists responsible for EFNEP in New York State participated in this investigation, the findings may have lacked statistical significance due to the identification of several octants in the contingency model which were determined to be operational, reducing the number of leaders placed in each octant. Considering, however, the manner in which the data followed the predicted direction it would be desirable to expand this study to other states involved in EFNEP to determine whether the contingency

model, operationalized in the same manner, could attain statistical significance when applied to the coacting group situation identified in this study. If this were to occur, however, the measure of group performance would have to be determined on the basis of what is presently the commonly accepted or known group performance measure in those states. In New York it was the number of program families enrolled (Single Factor Score). Other states may have advanced the same or different goals toward which EFNEP units would work.

3. As a measure of group performance, it is apparent that the Exposure Index encompasses a number of factors which characterize the intentions of EFNEP, e.g., relatively intensive work with low income, low literacy audiences. Since the two measures yielded opposite results in many correlations with independent variables it can be concluded that the two instruments do indeed measure different things. The correlation between the two group perf. measures was .07 (n.s.). The Single Factor Score reflected the strategy of the leader who motivates the members to enroll program families. The Exposure Index, on the other hand, was more sensitive to the leader who encouraged or motivated the members to not only enroll families into EFNEP but to work intensively, or at least, often, with the disadvantaged audience.

Considering the comprehensive nature of the Exposure Index and the fact that it includes several measures of group performance, it can be concluded that this measure more appropriately addresses itself to the goals of the organization and is a more complete indicator of the productivity of the personnel toward the attainment of the organizational goals. The Exposure Index appeared capable of discriminating between groups quantitatively relative to their efforts to work with the target audience. This measure, or an elaboration or modification of it, would be a useful program management tool in Cooperative Extension, primarily in the EFNEP evaluation process.

What has also been demonstrated in this study is that readily available data which are relatively stable over time can be utilized to develop such measures of productivity.

Since the data on which the Exposure Index was based were derived from ES-USDA forms which each of the 50 states uses, this measure of group performance is equally applicable to all other states.

4. It can be concluded that self-concept is not included among those personality characteristics which the LPC score is supposed to identify. Since this measure correlated .10 with LPC, little relationship is evident.

However, correlations obtained between self-concept and both measures of

group performance were such that they deserve consideration at this time. The evidence suggests that self-concept deserves further consideration as a possible predictor of leadership effectiveness. It should be considered in two ways: first in association with measures of group performance similar to the Exposure Index and second, as a replacement for the LPC measure in further tests of the contingency model since this measure of self-concept displayed results consistent with the predicted direction of the contingency model in all four octants identified in this investigation.

5. Response variability appears to have value as still another indicator of leadership effectiveness, at least in the organization in which the contingency model has been tested. Given the fact that a positive relationship appeared between response variability and Single Factor Score (r=.24, n.s.) and a negative relationship with the Exposure Index (r=-.32, n.s.) coupled with the above finding that a highly significant negative relationship exists between response variability and self-concept at the .01 level of significance, it can be concluded that response variability does indeed discriminate between LPC scores. The possibility exists that response variability is the critical factor, and not whether the leader is high, intermediate, or low LPC. Those who were identified as INVARS, regardless of whether they were high, low, or intermediate LPC, appear to be more task oriented, but the task comes from an internal direction based on their perception of the goals toward which they should strive. Those who exhibited greater response variability (VARS) seem to derive their cues externally, in this instance, from the organization. Thus, the VAR/INVAR dichotomy might be based on the degree to which a person is inner- or outer-directed. This leads once again to the self-concept variable. It has been suggested that a person with a low self-concept is in constant need of external cues that will enhance or improve his view of self. One with a high self-concept appears capable of deriving intrinsic satisfaction from within his self structure without dependence on external cues for reaffirmation. If a person's perception of self is affected, to a considerable degree, by his perception of his relationship with his external environment, he would strive to do those things that will elicit positive reactions from others. For example, he will accept the goal which the organization set forth and will strive to attain that goal, rather than trying to assess that goal in light of some broader purpose. If, however, the person derives satisfaction from within his self structure, he is more likely to set his own goals rather than be dependent on others for goal direction. The data (Table V) although non-significant, appear to support theproposition relative to the role of self-concept in goal identification and orientation.

In this study it was found that response variability is strongly associated with self-concept at the .01 level of significance. This leads one to conclude that an analysis of response variability behavior will not only serve as a predictor of leadership effectiveness independent of intervening variables but also will characterize the leader's self-concept. Summarily, the greater the response variability the lower the self-concept and the more outer-directed the leader will be. These findings offer exciting possibilities for further research in the area of attempting to predict leadership effectiveness. What are some implications of these findings?

Implications for Theory & Practice

Given that the contingency model theory, when subjected to examination, produced findings consistent with the outcomes predicted by the model, but at non-significant levels, the theory deserves further attention as a possible predictor of leadership effectiveness in Cooperative Extension. Further research is needed to support or refute its utility in a coacting task group setting. Much work, however, needs to be done with respect to the variables which affect the situational favorableness dimension. This component of the model is crucial to its proper usage. Yet, a greater degree of ambiguity exists in the proper determination of the octants which characterize the leadership situation than anywhere else in the model. A review of the literature revealed that considerable criticism of the contingency theory arose in studies of replication. Unfortunately few studies seemed to focus on providing constructive suggestions for the improvement of the theory or of its elements.

The present study attempted to clarify the personality characteristics which the LPC instrument purportedly reflects. The most significant finding was a result of viewing the LPC instrument in a different manner by analyzing the degree to which a respondent displays variable response behavior. That, coupled with the measure of self-concept, has possibly opened the door to further research addressed to the question, "Why do certain people respond in a variable manner to their least perferred coworker while others do not?" Since the high and low LPC leaders did not display variable response behavior to the extent that the intermediate LPC group did, and since a significant negative relationship appeared between response variability and self-concept, perhaps the high and low LPCs have a more positive self-concept whereas the intermediate LPCs have a lower or more negative self-concept. While this proposition was not supported by the findings (see Hypothesis No. 1) the question remains as to why the intermediate LPC leaders scored significantly higher in their response variability mean scores.

Considering also that application of the contingency model with respect to all variables involved is a rather difficult process, one wonders whether some

other instrument could address itself to the identification of effective leaders in a variety of situations as the contingency model attempts to do. While it would be presumptuous to suggest that self-concept could accomplish this task in a number of different situations, this variable certainly seems to have surfaced as having the potential to discriminate between effective and ineffective leaders, at least with respect to the organization in which this theory was tested.

With reference to possible practical application of the research findings one aspect stands out as being capable of making a significant contribution to Cooperative Extension, not only in New York State but in other states as well. And that is the incorporation of the Exposure Index or a modification of it, in the organization. Not only would it have utility if incorporated as is into EFNEP but could serve as a model for other components of extension, i.e., agriculture, 4-H, home economics, community resource development, to derive certain quantitative measures that would reflect upon the audience(s) to which each component addresses its efforts. In doing so, more adequate measures of leadership effectiveness would evolve than are presently available.

If the Exposure Index were introduced to EFNEP personnel, it would be interesting to make a comparative study one year hence to determine whether EFNEP units that presently scored high on the Single Factor Score became identified with the more comprehensive measure and expanded the outreach effort of those units.

Considering that, when units were compared according to the Exposure Index, an enormous range in scores appeared (19-147). This range in scores was consistent over a two year period. Units scoring high scored high both years. Low scoring units were consistently low. This considerable range in scores raises some questions worthy of consideration in future research. "What variables account for this great discrepancy?" "What leadership techniques do high scoring unit leaders employ that give them such positive results?" "What variables are operative in high and low scoring units?" "Has it to do with population density, the presence or absence of manufacturing industries, or other factors?" Answers to these and other related questions might serve to clarify the obvious fact that some leaders are far more effective than others in accomplishing the mission of EFNEP.

APPENDIX I

LPC

Think of the person <u>with whom you can work least well</u>. He may be someone you work with now, or he may be someone you knew in the past.

He does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he appears to you.

Pleasant	8	7	6	5	4	3	2	1	Unpleasant
Friendly	8	7	6	5	4	3	2	1	Unfriendly
Rejecting	1	2	3	4	5	6	7	8	Accepting
Helpful	8	7	6	5	4	3	2	1	Frustrating
Unenthusiastic	1	2	3	4	5	6	7	8	Enthusiastic
Tense	1	2	3	4	5	6	7	8	Relaxed
Distant	1	2	3	4	5	6	7	8	Close
Cold	1	2	3	4	5	6	7	8	Warm
Cooperative	8	7	6	5	4	3	2	1	Uncooperative
Supportive	8	7	6	5	4	3	2	1	Hostile
Boring	1	2	3	4	5	6	7	8	Interesting
Quarrelsome	1	2	3	4	5	6	7	8	Harmonious
Self-assured	8	7	6	5	4	3	2	1	Hesitant
Efficient	8	7	6	5	4	3	2	1	Inefficient
Gloomy	1	2	3	4	5	6	7	8	Cheerful
Open	8	7	6	5	4	3	2	1	Guarded

APPENDIX II

PART I--INSTRUCTIONS FOR COMPLETING THE
PERCEIVED-SELF ASSESSMENT

You are asked to describe yourself as you honestly see yourself. You are to use the adjectives listed after the instructions in this description. Please read the instructions carefully since it is important that the procedure be followed in all its detail.

Look through the list of adjectives and notice that a good many of them are descriptive of you, to a greater or lesser degree. Other of the objectives are quite undescriptive of you and are even the opposite of the way you see yourself. Your task is to indicate the various degrees with which each adjective describes you.

As a first step, look through the list and then pick out the ten adjectives or phrases you feel are most characteristic or descriptive of you. Put the number 7 in fromt of these words. Now, look through the list again and pick out the ten words which you feel are quite characteristic of you (excluding from consideration those words you have already assigned the number 7). Write the number 6 in front of these words. Now of those words that remain, pick out the ten adjectives that you feel are fairly descriptive of you and place the number 5 in front of them. Now work from the opposite end toward the middle. Of those words not yet numbered, pick out the ten adjectives that are most uncharacteristic of you and give them the number 1. Pick out the ten adjectives that you feel are quite uncharacteristic of you and give them the number 2. Now choose the ten adjectives fairly uncharacteristic of you and give them the number 3.

As a check, count the words that still have no numbers. If the total is ten then you have followed the procedure properly. If the total is different, then a mistake has been made somewhere and you had better check to see if you have ten words numbered 7, ten 6's, ten 5's, ten 3's, ten 2's, and ten 1's.

Note: Part II - the "Ideal-Self Assessment" utilizes the same 70 adjectives. The respondent is given a new sheet and follows the same procedure as above, considering the person he/she would like to be.

SELF ASSESSMENT

Name_____

___1 absent-minded
___2 affected
___3 ambitious
___4 assertive, dominant
___5 bossy
___6 calm
___7 cautious
___8 competitive
___9 confident
___10 considerate
___11 cooperative
___12 cruel, mean
___13 defensive
___14 dependent
___15 disorderly
___16 dissatisfied
___17 dramatic
___18 dull
___19 easily
___20 easily hurt
___21 energetic
___22 fair-minded, objective
___23 feminine
___24 frank
___25 friendly
___26 guileful
___27 helpless
___28 hostile
___29 idealistic
___30 imaginative
___31 impulsive
___32 intelligent
___33 versatile
___34 introspective
___35 jealous
___36 lazy
___37 likable
___38 persevering
___39 personally
___40 poised
___41 reasonable
___42 rebellious
___43 resentful
___44 reserved, dignified
___45 restless
___46 sarcastic
___47 self-controlled
___48 self-indulgent
___49 selfish
___50 self-pitying
___51 sense of humor
___52 sentimental
___53 shrewd, clever
___54 sincere
___55 sophisticated
___56 stubborn
___57 suspicious
___58 sympathetic
___59 timid, submissive
___60 touchy, irritable
___61 tactless
___62 unconventional
___63 undecided, confused
___64 unhappy
___65 uninterested, indifferent
___66 unworthy, inadequate
___67 warm
___68 withdrawn, introverted
___69 worried and anxious
___70 wise

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2. Stogdill, Ralph M. Handbook of Leadership. NY: MacMillan Publishing Co., Inc., 1974

3. Fiedler, Fred E. A Theory of Leadership Effectiveness. NY: McGraw-Hill Book Co., 1967

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5. Ashour, Ahmed S. "The Contingency Model of Leadership Effectiveness: An Evaluation." Organizational Behavior and Human Performance, 1973, Vol. 9, 339-355

6. Fiedler, Fred E. (see above)

7. Fiedler, Fred E. (see above) p. 13

8. Fiedler, Fred E. (see above) p. 32

9. McDavid, John W. and Harari, Herbert. Social Psychology, Individuals, Groups, Societies. NY: Harper and Row, 1968, p. 220

10. Coleman, James C. Abnormal Psychology and Modern Life. 3rd edition, Scott, Foresman and Co., 1964, p. 62

11. Sullivan, Harry Stack. The Interpersonal Theory of Psychiatry. NY: W.W. Norton and Co., 1953, p. 308

12. Fiedler, Fred E. (see above) p. 280

13. Fiedler, Fred E. (see above) p. 56

14. It must be noted that self-esteem is not necessarily equivalent to self-concept as defined in this investigation.

15. According to a telephone conversation with Dr. Fiedler, Univ. of Washington, March 12, 1975 at which time the author obtained the above scores differentiating between low, intermediate and high LPC leaders.

16. Krech, David, Crutchfield, R.S., and Ballachey, E.L. Individual in Society. NY: McGraw-Hill Book Co., Inc., 1962, p. 128

17. Fiedler, Fred E. (see above) p. 220

18. There are two reporting periods in EFNEP, July 1 to December 31 and January 1 to June 30.

19. Fiedler, Fred E. (see above) p. 48

20. Block, Jack. The Q-Sort Method in Personality Assessment and Psychiatric Research. Ill: Charles C. Thomas Publishers, 1961

21. Wylie, Ruth. The Self Concept. Lincoln, Neb.: Univ. of Nebraska Press, 1961, p. 41

22. A self/ideal-self correlation is based on the formula: $r=1 - \frac{\sum d_{ip}^2}{560}$ where $\sum d_{ip}^2$ = the sum of the squared difference between the individual personality items on the first and second rankings.

23. Fiedler, Fred E. (see above) p. 9

24. Families being worked with through EFNEP from whom certain demographic data is obtained such as family size, income, education, etc.

25. FTE--The unit of measure which converts the total number of hours worked by all paraprofessionals (full- or part-time) into the equivalent time a full-time person would normally work in a month. All computations in this study have been based on the FTE established by ES-USDA, 173 hours per month.

26. Fiedler, Fred E. (see above) p. 280

27. Wylie, Ruth. (see above) p. 102

28. Wylie, Ruth. (see above) p. 41

29. When LPC scores were trichotomized in such a manner that 20 respondents were placed in each category (low LPC = less than 55, intermediate LPC = 55 - 66, and high LPC = above 66) an analysis of variance yielded an F score of 2.61 which was not significant at the .05 level.

30. Fiedler, Fred E. (see above) p. 51